

The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A semiconductor device comprising:  
an active layer comprising a semiconductor film comprising silicon; [[and]]  
a gate electrode comprising tantalum adjacent to said active layer with a gate insulating film interposed therebetween;

an inorganic film over said active layer and on said gate electrode; and

a resin film over said inorganic film,

wherein a concentration of nickel in a source region and a drain region formed in said active layer is higher than a concentration of nickel in other regions in said active layer by two or more orders of magnitude, and

wherein said source region and said drain region comprise a nickel phosphide.

2. (Previously Presented) The semiconductor device according to claim 1, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

3.-4. (Canceled)

5. (Previously Presented) The semiconductor device according to claim 1, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

6. (Canceled)

7. (Previously Presented) The semiconductor device according to claim 1, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

8.-34. (Canceled)

35. (Currently Amended) A semiconductor device comprising:  
an active layer comprising a semiconductor film comprising silicon;  
a gate electrode comprising tantalum adjacent to said active layer with a gate insulating film interposed therebetween;  
a ~~first interlayer insulating film~~ comprising silicon and nitride over said active layer and on said gate electrode; and  
a ~~second interlayer insulating~~ resin film over said ~~first interlayer insulating film~~ comprising silicon and nitride,  
wherein a concentration of nickel in a source region and a drain region formed in said active layer is higher than a concentration of nickel in other regions in said active layer by two or more orders of magnitude, and  
wherein said source region and said drain region comprise a nickel phosphide.

36. (Previously Presented) The semiconductor device according to claim 35, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

37. (Canceled)

38. (Previously Presented) The semiconductor device according to claim 35, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

39. (Previously Presented) The semiconductor device according to claim 35, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

40. (Currently Amended) The semiconductor device according to claim ~~35~~ 1, wherein said ~~first interlayer insulating resin~~ film comprises ~~silicon nitride~~ a material selected from the group consisting of acrylics, polyimide, polyamide, polyimideamide, and epoxies.

41. (Currently Amended) The semiconductor device according to claim 35, wherein said ~~second interlayer insulating resin~~ film comprises a material selected from the group consisting of acrylics, polyimide, polyamide, polyimideamide, and epoxies.

42. (Currently Amended) A semiconductor device comprising:  
an active layer comprising a semiconductor film comprising silicon; ~~[[and]]~~  
a gate electrode comprising tantalum adjacent to said active layer with a gate insulating film interposed therebetween;  
an inorganic film over said active layer and on said gate electrode; and  
a resin film over said inorganic film.

wherein a concentration of nickel in a source region and a drain region formed in said active layer is higher than a concentration of nickel in other regions in said active layer which is less than  $5 \times 10^{16}$  atoms/cm<sup>3</sup>, and

wherein said source region and said drain region comprise a nickel phosphide.

43. (Previously Presented) The semiconductor device according to claim 42, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

44. (Canceled)

45. (Previously Presented) The semiconductor device according to claim 42, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

46. (Previously Presented) The semiconductor device according to claim 42, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

47. (Currently Amended) A semiconductor device comprising:  
an active layer comprising a semiconductor film comprising silicon;  
a gate electrode comprising a heat-resistant material adjacent to said active layer with a gate insulating film interposed therebetween;  
a ~~first interlayer-insulating~~ film comprising silicon and nitride over said active layer and on said gate electrode; and  
a ~~second interlayer-insulating~~ resin film over said ~~first interlayer-insulating~~ film comprising silicon and nitride,

wherein a concentration of nickel in a source region and a drain region formed in said active layer is higher than a concentration of nickel in other regions in said active layer which is less than  $5 \times 10^{16}$  atoms/cm<sup>3</sup>, and

wherein said source region and said drain region comprise a nickel phosphide.

48. (Previously Presented) The semiconductor device according to claim 47, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

49. (Canceled)

50. (Previously Presented) The semiconductor device according to claim 47, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

51. (Previously Presented) The semiconductor device according to claim 47, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

52. (Currently Amended) The semiconductor device according to claim 47 42, wherein said ~~first interlayer insulating~~ resin film comprises ~~silicon nitride~~ a material selected from the group consisting of acrylics, polyimide, polyamide, polyimideamide, and epoxies.

53. (Currently Amended) The semiconductor device according to claim 47, wherein said ~~second interlayer insulating~~ resin film comprises a material selected from the group consisting of acrylics, polyimide, polyamide, polyimideamide, and epoxies.

54. (Currently Amended) A semiconductor device comprising:  
an active layer comprising a semiconductor film comprising silicon; and  
a gate electrode comprising tantalum adjacent to said active layer with a gate insulating film interposed therebetween;  
an inorganic film over said active layer and on said gate electrode; and  
a resin film over said inorganic film,  
wherein a source region and a drain region formed in said active layer comprise a nickel phosphide.

55. (Previously Presented) The semiconductor device according to claim 54, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

56. (Previously Presented) The semiconductor device according to claim 54, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

57. (Previously Presented) The semiconductor device according to claim 54, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

58. (Currently Amended) A semiconductor device comprising:  
an active layer comprising a semiconductor film comprising silicon;  
a gate electrode comprising tantalum adjacent to said active layer with a gate insulating film interposed therebetween;  
a ~~first interlayer insulating film~~ comprising silicon and nitride over said active layer and on said gate electrode; and  
a ~~second interlayer insulating~~ resin film over said ~~first interlayer insulating film~~ comprising silicon and nitride,  
wherein a source region and a drain region formed in said active layer comprise a nickel phosphide.

59. (Previously Presented) The semiconductor device according to claim 58, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

60. (Previously Presented) The semiconductor device according to claim 58, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

61. (Previously Presented) The semiconductor device according to claim 58, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

62. (Withdrawn) The semiconductor device according to claim 1, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

63. (Withdrawn) The semiconductor device according to claim 1, wherein said gate electrode is located below said active layer.

64. (Withdrawn) The semiconductor device according to claim 35, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

65. (Withdrawn) The semiconductor device according to claim 35, wherein said gate electrode is located below said active layer.

66. (Withdrawn) The semiconductor device according to claim 42, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

67. (Withdrawn) The semiconductor device according to claim 42, wherein said gate electrode is located below said active layer.

68. (Withdrawn) The semiconductor device according to claim 47, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

69. (Withdrawn) The semiconductor device according to claim 47, wherein said gate electrode is located below said active layer.

70. (Withdrawn) The semiconductor device according to claim 54, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

71. (Withdrawn) The semiconductor device according to claim 54, wherein said gate electrode is located below said active layer.

72. (Withdrawn) The semiconductor device according to claim 58, wherein said semiconductor device further comprises a highly resistant region between said drain region and a channel region.

73. (Withdrawn) The semiconductor device according to claim 58, wherein said gate electrode is located below said active layer.

74. (Currently Amended) The semiconductor device according to claim ~~58~~ 54, wherein said ~~first interlayer insulating~~ resin film comprises ~~silicon nitride~~ a material selected from the group consisting of acrylics, polyimide, polyamide, polyimideamide, and epoxies.



75. (Currently Amended) The semiconductor device according to claim 58, wherein said ~~second interlayer insulating~~ resin film comprises a material selected from the group consisting of acrylics, polyimide, polyamide, polyimideamide, and epoxies.

76. (New) A semiconductor device comprising:  
a gate electrode comprising tantalum over a substrate; and  
an active layer comprising a semiconductor film comprising silicon over said gate electrode with a gate insulating film interposed therebetween,  
wherein a concentration of nickel in a source region and a drain region formed in said active layer is higher than a concentration of nickel in other regions in said active layer by two or more orders of magnitude, and  
wherein said source region and said drain region comprise a nickel phosphide.

77. (New) The semiconductor device according to claim 76, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

78. (New) The semiconductor device according to claim 76, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

79. (New) The semiconductor device according to claim 76, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

80. (New) A semiconductor device comprising:  
a gate electrode comprising tantalum over a substrate; and

an active layer comprising a semiconductor film comprising silicon over said gate electrode with a gate insulating film interposed therebetween;  
a first interlayer insulating film over said active layer; and  
a second interlayer insulating film over said first interlayer insulating film,  
wherein a concentration of nickel in a source region and a drain region formed in said active layer is higher than a concentration of nickel in other regions in said active layer by two or more orders of magnitude, and  
wherein said source region and said drain region comprise a nickel phosphide.

81. (New) The semiconductor device according to claim 80, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

82. (New) The semiconductor device according to claim 80, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

83. (New) The semiconductor device according to claim 80, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

84. (New) The semiconductor device according to claim 80, wherein said first interlayer insulating film comprises silicon nitride.

85. (New) The semiconductor device according to claim 80, wherein said second interlayer insulating film comprises a material selected from the group consisting of acrylics, polyimide, polyamide, polyimideamide, and epoxies.

86. (New) A semiconductor device comprising:  
a gate electrode comprising tantalum over a substrate; and  
an active layer comprising a semiconductor film comprising silicon over said gate electrode with a gate insulating film interposed therebetween,  
wherein a concentration of nickel in a source region and a drain region formed in said active layer is higher than a concentration of nickel in other regions in said active layer which is less than  $5 \times 10^{16}$  atoms/cm<sup>3</sup>, and  
wherein said source region and said drain region comprise a nickel phosphide.

87. (New) The semiconductor device according to claim 86, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

88. (New) The semiconductor device according to claim 86, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

89. (New) The semiconductor device according to claim 86, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

90. (New) A semiconductor device comprising:  
a gate electrode comprising tantalum over a substrate; and  
an active layer comprising a semiconductor film comprising silicon over said gate electrode with a gate insulating film interposed therebetween;  
a first interlayer insulating film over said active layer; and  
a second interlayer insulating film over said first interlayer insulating film,

wherein a concentration of nickel in a source region and a drain region formed in said active layer is higher than a concentration of nickel in other regions in said active layer which is less than  $5 \times 10^{16}$  atoms/cm<sup>3</sup>, and

wherein said source region and said drain region comprise a nickel phosphide.

91. (New) The semiconductor device according to claim 90, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

92. (New) The semiconductor device according to claim 90, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

93. (New) The semiconductor device according to claim 90, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

94. (New) The semiconductor device according to claim 90, wherein said first interlayer insulating film comprises silicon nitride.

95. (New) The semiconductor device according to claim 90, wherein said second interlayer insulating film comprises a material selected from the group consisting of acrylics, polyimide, polyamide, polyimideamide, and epoxies.

96. (New) A semiconductor device comprising:  
a gate electrode comprising tantalum over a substrate; and  
an active layer comprising a semiconductor film comprising silicon over said gate electrode with a gate insulating film interposed therebetween,

wherein a source region and a drain region formed in said active layer comprise a nickel phosphide.

97. (New) The semiconductor device according to claim 96, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

98. (New) The semiconductor device according to claim 96, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

99. (New) The semiconductor device according to claim 96, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

100. (New) A semiconductor device comprising:  
a gate electrode comprising tantalum over a substrate; and  
an active layer comprising a semiconductor film comprising silicon over said gate electrode with a gate insulating film interposed therebetween;  
a first interlayer insulating film over said active layer; and  
a second interlayer insulating film over said first interlayer insulating film,  
wherein a source region and a drain region formed in said active layer comprise a nickel phosphide.

101. (New) The semiconductor device according to claim 100, wherein said nickel phosphide is one of NiP, NiP<sub>2</sub> and Ni<sub>2</sub>P.

102. (New) The semiconductor device according to claim 100, wherein said gate electrode has a heat-resistance to a heat treatment of 700°C.

103. (New) The semiconductor device according to claim 100, wherein said semiconductor device is one selected from the group consisting of a portable intelligent terminal, a head mounted display, a front-projection type liquid crystal display, a cellular mobile telephone, a portable video camera, and a rear-projection liquid crystal display.

104. (New) The semiconductor device according to claim 100, wherein said first interlayer insulating film comprises silicon nitride.

105. (New) The semiconductor device according to claim 100, wherein said second interlayer insulating film comprises a material selected from the group consisting of acrylics, polyimide, polyamide, polyimidamide, and epoxies.